

## REMARKS

### I. Restriction Requirement

According to the Restriction Requirement, election of one of the following inventions is required under 35 U.S.C. §121:

- I. Claims 1-8 and 11, drawn to a rubber mixture and its corresponding vulcanizate,
- II. Claims 9 and 10, drawn to a process for vulcanizing a rubber mixture, and
- III. Claim 12, drawn to a roll covering.

Applicant provisionally elected Group I, with traverse during a telephone call with the Examiner on May 16, 2003. Applicant respectfully traverses the Restriction Requirement. Under 35 U.S.C. § 121 an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and are independent and distinct inventions. See MPEP 803. Applicant respectfully submits that if the search and examination of the entire application can be made ***without serious burden***, the Examiner must examine the application on its merits, even though it includes claims to independent and distinct inventions. See MPEP 803.

Claims 1-8 and 11 are directed to a rubber mixture comprising, one or more carboxylated nitrile rubbers, one or more metal salts of an acrylate, one or more liquid acrylates optionally applied onto a support, from 0.01 to 8 phr of one or more silanes, and optionally further additives and/or fillers. Claims 9-10 are directed to processing comprising mixing the components of Group I and Claim 12 is directed to a roll covering comprising the components of Group I. Applicant respectfully submits that a single search encompassing Group I and directed to the claimed rubber compounds could be performed. Also, Applicant submits that any additional search would not entail any "serious burden" on the Examiner, as the rubber compound is the essential element to all Groups. Accordingly, Applicant requests withdrawal of the Restriction Requirement from Groups I, II and III.

### II. Rejection under 35 U.S.C. §103(a)

Claims 1-8 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hert, et al. (U.S. Patent No. 5,985,392) in view of Fujii, et al. (EP 0 933 381). Applicant respectfully traverses this ground of rejection.

Applicant respectfully submits that "in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a **reasonable expectation of success**. Finally, the prior art references must teach or suggest all the claims limitations. "The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure." See MPEP § 2142, citing In re Vaeck, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991).

The present invention is directed to a rubber mixture comprising one or more carboxylated nitrile rubbers, one or more metal salts of an acrylate, one or more liquid acrylates optionally applied onto a support, from 0.01 to 8 phr of one or more silanes, and, optionally further additives and/or fillers. Rubber mixtures according to the present invention are suitable for roll applications, because once vulcanized, they combine excellent hardness and excellent mechanical properties in the range from above 20 Shore D to DIN 53,506, even at elevated temperatures, which good resistance to abrasion, heat, water and basic chemicals. See page 8, lines 19-23. According to the present invention, good adhesion between the covering (i.e., the rubber mixture) and metal and within the covering is essential in preparing rolls. See page 8, lines 13-14.

As illustrated in the Examples and Tables of the present invention, the rubber mixture claimed is soft enough to be mixed well and has an excellent hardness after vulcanization. See, Table 2 and 4, which illustrates the improved physical properties of rubber mixtures 1b-1e and 2c-2e, which were prepared according to the present invention. Specifically, please note the Shore D values and tensile strength.

Hert, et al. discloses blends of thermoplastic and rubbers which are adherent to thermoplastics. Example 4 of Hert, et al. discloses a rubber composition including carboxylated butadiene nitrile rubber, silica, silane, zinc oxide, and a wax (which includes zinc acrylate). According to Hert, et al., the rubber composition is mixed with a polyetheresteramide. Table 1, discloses that the combined mixture has a Shore Hardness D of 30. As stated in the Office Action, Hert, et al. does not teach each and every element of the claimed invention, namely, the liquid acrylate.

Fujii, et al. discloses highly saturated carboxylated nitrile copolymer rubbers and processes for the production thereof. Fujii, et al. teaches a rubber mixture

comprising a carboxylated nitrile group containing rubber having specified acid equivalents, infrared absorption, Mooney viscosity and iodine value and a crosslinking agent. See paragraphs 18 and 67. Fujii, et al. teaches that useful crosslinking agents include sulfur type and organic peroxide type crosslinking agents. See paragraphs 67-79. Fujii, et al. further discloses that with an organic type crosslinking agent it is preferred to use in combination a crosslinking aid such as a trimethylolpropane trimethacrylate. See paragraph 74. Fujii, et al. does not suggest that the rubber disclosed therein is soft enough to be mixed well and has an excellent hardness. *irrelevant*

As disclosed in Tables 2-5 the rubber mixtures taught in Fujii, et al. have a hardness, according to JIS A which is very similar to Shore Hardness A, of between 70-76. Fujii, et al. does not teach or suggest a rubber mixture comprising one or more carboxylated nitrile rubbers, one or more metal salts of an acrylate, one or more liquid acrylates optionally applied onto a support, from 0.01 to 8 phr of one or more silanes, and optionally further additives and/or fillers would have an excellent Shore Hardness D. In fact, Applicant submits that when the Shore Hardness A of a vulcanized rubber is in the range of 80-90 the scale of Shore Hardness A becomes imprecise, as the scale of Shore Hardness A and D overlap in that range. Therefore, when the vulcanized rubber gets that hard, the Shore Hardness D must be measured. And as noted in Tables 2 and 4 of the Specification of the present invention, the claimed rubber mixtures have a Shore Hardness A of between 90 and 99 and have a Shore Hardness D between 40 and 70. Accordingly, the rubber of the claimed invention is much harder than the rubber disclosed in Fujii, et al. or Hert, et al. *or, such that*

X Applicant submits, that based on the facts above, one skilled in the art would not have been motivated to combine the disclosure of Hert, et al. and Fujii, et al. to arrive at a rubber mixture with an improved hardness because neither disclosed rubber mixture has a Shore Hardness D measurement so high. Further, Applicant submits, that it was an unexpected result to achieve such high hardness with the inventive mixture. Therefore, for at least these reasons, Applicant submits that Hert, et al. in view of Fujii, et al. fails to render the present invention obvious, and accordingly, Applicant requests withdrawal of the instant invention.

### III. Rejection under 35 U.S.C. §103(a)

Claims 1-8 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuchs (U.S. Patent No. 6,538,071) in view of Hert, et al. Applicant respectfully traverses this ground of rejection. ?

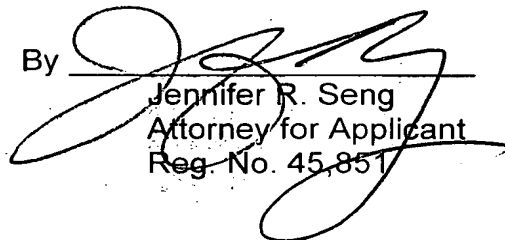
Applicant submits that Fuchs is not a prior art reference, which can be used as a rejection under 35 U.S.C. § 102 and therefore can not be used as a prior art reference under § 103(a). See 35 U.S.C. §§ 102 and 103. Applicant submits that Fuchs issued (published) after Applicant filed the pending invention (Fuchs issued on March 25, 2003 and the present invention was filed in the US on January 15, 2003). Applicant further submits, they have requested and will file, a certified translation of the priority document, in the event that the Examiner issues an Office Action rejecting Claims 1-8 and 11 in view of any foreign equivalent publication of Fuchs. Applicant submits that to the best of their knowledge, the earliest publication date of Fuchs is March 7, 2001, which is after the priority date of January 17, 2001, claimed by Applicant.

As the primary reference is not available, Applicant submits that as discussed above and as admitted in the Office Action, Hert, et al. does not teach or suggest every element of the claimed invention, namely the use of a liquid acrylate. See page 6, numbered paragraph 12. Therefore, Applicant submits that Hert, et al. does not teach or suggest each element of the invention and accordingly, Applicant requests withdrawal of this ground of rejection.

Respectfully submitted,

Bayer Polymers LLC  
100 Bayer Road  
Pittsburgh, Pennsylvania 15205-9741  
(412) 777-3879  
FACSIMILE PHONE NUMBER:  
(412) 777-3902  
lo/SENG/jrs121

By

  
Jennifer R. Seng  
Attorney for Applicant  
Reg. No. 45,851